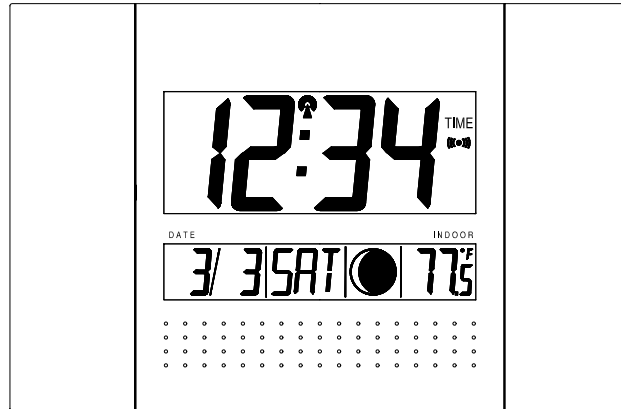


**WS-8007U**

**Radio Controlled Moon Phase Clock**

**Instruction Manual**



**LA CROSSE**  
**TECHNOLOGY** *tools and technology  
for home and office*

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## **INVENTORY OF CONTENTS**

- 1) WS-8007U
- 2) Instruction manual and warranty card.

## **ADDITIONAL EQUIPMENT (not included)**

- 1) Two fresh 1.5V AA batteries.
- 2) Three wall-hanging screws.
- 3) Appropriate screwdriver for screws.

## **ABOUT WWVB (Radio Controlled Time)**

The NIST (National Institute of Standards and Technology—Time and Frequency Division) WWVB radio station is located in Ft. Collins, Colorado, and transmits the exact time signal continuously throughout the United States at 60 kHz. The signal can be received up to 2,000 miles away through the internal antenna in the Moon Phase Clock. However, due to the nature of the Earth's Ionosphere, reception is very limited during daylight hours. The Moon Phase Clock will search for a signal every night when reception is best. The WWVB radio station derives its signal from the NIST Atomic clock in Boulder, Colorado. A team of atomic physicists is continually measuring every second, of every day, to an accuracy of ten billionths of a second per day. These physicists have created an international standard, measuring a second as 9,192,631,770 vibrations of a Cesium-133 atom in a vacuum. This Moon Phase Clock regulates the WWVB transmitter. For more information about WWVB please see the NIST website at <http://www.boulder.nist.gov/timefreq/stations/wwvb.htm>

## **QUICK SET-UP GUIDE**

- 1) Insert two fresh AA batteries into the moon phase clock.
- 2) Wait 10 minutes for WWVB reception.
- 3) If there is no WWVB reception, manually set the time and date (see instructions in the Program Mode section).
- 4) Program the settings.
- 5) Mount the WS-8007U in a suitable location where WWVB signals can be received.

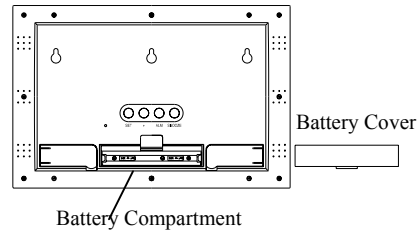
## DETAILED SET-UP GUIDE

### I) BATTERY INSTALLATION

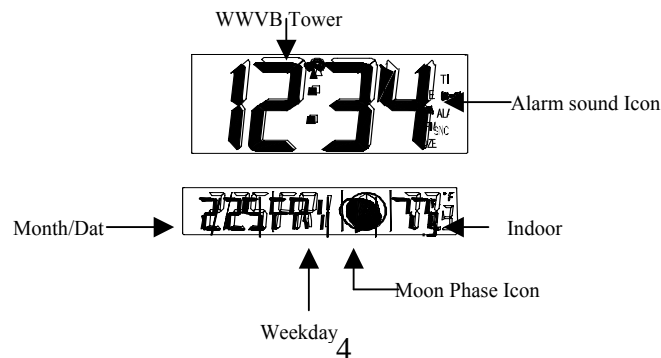
**Note:** To avoid start-up problems make sure that the batteries do not spring free.

#### A) MOON PHASE CLOCK

- 1) Remove the battery cover, located on the backside of the moon phase clock and directly below the function buttons.
- 2) Observe the correct polarity, and install 2 AA batteries.
- 3) Replace the battery cover.



**Note:** After the batteries have been installed a tone will sound, and all the LCD's (Liquid Crystal Display) will briefly light up. Then the indoor temperature, the date as "1/ 1", the weekday as "MON", and the Moon Phase will be displayed. Also, the time will appear as "--:--" for approximately 1 minute. Then the WWVB search is automatically initiated, and a tower icon appears and flashes with the time colon (no tower icon will appear if the WWVB is too weak to be detected). While the WWVB search is being conducted various numbers will appear in the time display. The numbers "0", "1", or "8" will appear in the hour position and the seconds will appear in the minute display. The moon phase clock will either display the WWVB time, or discontinue the search after 10 minutes if the time is not found. When the search is cancelled "--:--" will appear in the time LCD. The moon phase clock will conduct a WWVB search every hour until the first signal is found. Once the WWVB time is found, a search is automatically conducted nightly at midnight. If the signal is found at midnight, the tower icon will remain, if not, another search will take place every hour (up to 6:00 am) until the signal is found successfully. If no signal is found during this period, the tower icon will not appear and the clock will search again at 12:00 am the next night.



## PROGRAM MODE

To enter the Program Mode hold down the “*SET*” button for 2 seconds until “-5EST” flashes in the Date LCD. Press and release the “*SNZ*” button at any time to exit the Program Mode, or wait approximately 15 seconds for the moon phase clock to automatically return to normal operation.

Your clock will automatically set up with Eastern Time Zone, Daylight Saving Time On, English for the language, 12 hour clock (AM/PM) and °F for temperature.

### I) FUNCTION BUTTONS

There are 4 function buttons located on the backside of the Moon Phase Clock. The function buttons are labeled: “*SET*”, “+”, “*ALM*” and “*SNZ*”.

### II) TIME ZONE SETTING

- 1) Hold down the “*SET*” button for 2 seconds, the default setting “-5EST” will flash in the Date LCD.
- 2) Press and release the “+” button to select your desired time zone. There are 13 time zones to choose from:

-5EST	Eastern Time (default setting)
-6CST	Central Time
-7MST	Mountain Time
-8PST	Pacific Time
-9ALA	Alaskan Time
-10HAW	Hawaiian Time
-11	
-12	
GMT	Greenwich Mean Time
-1	
-2	
-3	
-4ATL	Atlantic Time

- 3) Press and release the “*SET*” button to confirm the time zone setting and to advance to the DST (Daylight saving time) setting.

### III) DST (DAYLIGHT SAVING TIME) SETTING

**Note:** The DST default (factory) setting is “On”, meaning that the WWVB will automatically change the time according to Daylight Saving Time in the spring and fall. For areas that do not recognize DST changes (Arizona and parts of Indiana) turn the DST “OFF”.

- 1) “On” will be flashing in the time LCD and “DST” flashes where the Weekday normally appears.
- 2) Press and release the “+” button to turn the DST off, as will be indicated by the display of “OFF” in the time LCD.
- 3) Press and release the “SET” button to confirm the DST setting and to advance to select the language for the weekday.

### IV) LANGUAGE SELECTION FOR THE WEEKDAY

- 1) The default language “US” will be flashing in the time LCD.
- 2) Press and release the “+” button to select the desired language. There are 3 languages to select from:

US	English
F	French
E	Spanish

- 3) Press and release the “SET” button to confirm the language setting and to advance to manually set the time.

### V) TIME SETTING

**Note:** When the WWVB signal is found, that time will over-ride the manually set time.

- 1) The hour “12” will be flashing in the time LCD.
- 2) Press and release the “+” button to select the hour.

**Note:** When setting the hour, “PM” will appear to the left of the hour display, if it is AM nothing will be displayed.

- 3) Press and release the “SET” button to confirm the hour setting and to shift to select the minutes.
- 4) The minute area will now be flashing.
- 5) Press and release the “+” button to select the minutes.
- 6) Press and release the “SET” button to confirm the time setting, and to advance to manually set the calendar.

## VI) CALENDAR SETTING

**Note:** When the WWVB signal is found, that date will over-ride the manually set date.

- 1) The default year “00” will be flashing in the date LCD.
- 2) Press and release the “+” button to select the year (last two digits).
- 3) Press and release the “SET” button to confirm the year and to set the month.
- 4) The default month “1” will flash.
- 5) Press and release the “+” button to select the appropriate month (January = “1”, December = “12”).
- 6) Press and release the “SET” button to confirm the month and to set the date.
- 7) The default date “1” will flash.
- 8) Press and release the “+” button to select the appropriate date.
- 9) Press and release the “SET” button to confirm the date and to set the weekday.
- 10) The default weekday “MON” (depends on selected language) will flash.
- 11) Press and release the “+” button to select the appropriate weekday.
- 12) Press and release the “SET” button to confirm the calendar settings and to advance to select either 12 or 24-hour time display.

## VII) 12/24-HOUR SETTING

- 1) The “12” hour time display will be flashing in the time LCD.
- 2) Press and release the “+” button to toggle between 12 and 24 hour time.

**Note:** 12-hour uses AM/PM, 24-hour is also known as “military” time.

- 3) Press and release the “SET” button to confirm the 12/24-hour time display and to advance to select either °F or °C.

## VIII) SELECTING °F OR °C

- 1) The default “°F” will be flashing in the time LCD.
- 2) Press and release the “+” button to toggle between °F and °C.
- 3) Press and release the “SET” button to confirm the °F or °C selection and exit the Program Mode.

## FEATURES & OPERATIONS

### I) CHANGING DISPLAY MODE (DAY, SECONDS, AND TEMPERATURE)

There are three possible display modes to view the date, seconds, and temperature:

- 1) *Month & date/weekday/moon phase/indoor temperature (default)*
- 2) *Month & date/weekday/moon phase/second.*
- 3) *Month & date/seconds/moon phase/indoor temperature*

To change the display mode press and release the “+” button to toggle through these display modes.

### II) THE ALARM

#### A) SETTING THE ALARM

**Note:** *The duration of the alarm is 85 seconds. After each of the first two 25 second periods, the rate of the alarm increases.*

- 1) Hold down the “ALM” button for 5 seconds. The “TIME” icon to the right of the minutes (in the time LCD) shifts to “ALARM” and the hour digit of the alarm flashes.
- 2) Press and release the “+” button to set the alarm hour.
- 3) Press and release the “ALM” button to confirm the hour and to move to set the alarm minutes.
- 4) The alarm minutes flash.
- 5) Press and release the “+” button to set the alarm minutes.
- 6) Press and release the “ALM” button to confirm and to exit the alarm setting mode.

**Note:** *The alarm will be automatically set to sound when exiting the alarm-setting mode, indicated by the alarm icon to the right of the time- (((●)))*

#### B) ACTIVATING/DEACTIVATING THE ALARM

- 1) The alarm will be automatically set to sound when exiting the alarm-setting mode (indicated by the alarm icon under the word “time”).
- 2) Press and release the “ALM” button to activate and deactivate the alarm. The alarm “sound” icon under the word “time” will appear or disappear, and the alarm time will be displayed briefly before returning to the normal display mode.



### C) ACTIVATING THE SNOOZE FUNCTION









- 1) While the alarm is sounding press and release the “SNZ” button to activate the snooze function. The alarm “sound” icon and “SNOOZE” icon (under the word “time”) will flash. The duration of the snooze function is 10 minutes, then the alarm will resume.

### D) SUSPENDING ALARM

- 1) While the alarm is sounding or the SNOOZE is active, press and release the “ALM” button to suspend the alarm until the next day.

## III) MOON PHASE

The Moon Phases, and their corresponding dates appear in the Date LCD. There are 8 visible Moon Phases that will show in the Date LCD:

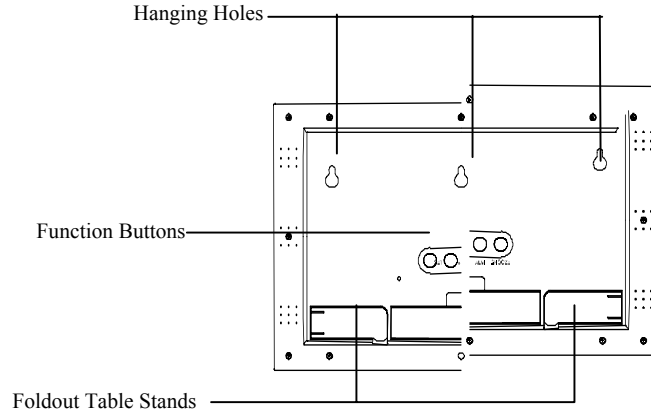
<u>Waxing Moon Phases</u>	<u>Waning Moon Phases</u>
 New Moon	 Full Moon
 Crescent Moon	 Gibbous
 First Quarter Moon	 Last Quarter Moon
 Gibbous	 Crescent Moon

The moon phase clock is programmed with all moon phases and corresponding dates from the year 2000 until 2019.

## IV) INDOOR TEMPERATURE

The Indoor Temperature appears on the right side of the Date LCD. The temperature is checked every 10 seconds, and updated whenever there is a change.

## MOUNTING



There are two possible ways to mount the moon phase clock:

- use of the foldout table stands, or
- wall mounting.

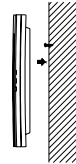
### I) FOLDOUT TABLE STANDS

The Foldout table stand legs are located on the backside, at the lower corners, and on both sides of the battery cover. The hinges are towards the edges of the moon phase clock, and the ends (with no hinge) need to be folded out towards the edge. Once the foldout table stands are extended, place the moon phase clock in an appropriate location.



### II) WALL MOUNTING

- 1) Using a straightedge, horizontally space at 3-15/16 of an inch (100.58mm) three screw positions on a wall.
- 2) Install three mounting screws (not included) into a wall within transmission range—leaving approximately 3/16 of an inch (5mm) extended from the wall.
- 3) Place the moon phase clock onto the screws, using the hanging holes on the backside. Gently pull the moon phase clock down to lock the screws into place.



## **MAINTENANCE & CARE**

- Extreme temperatures, vibrations, and shock should be avoided to prevent damage to the units.
- Clean displays and units with a soft, damp cloth. Do not use solvents or scouring agents—they may mark and damage the displays and casings.
- Do not submerge in water.
- Immediately remove all low powered batteries to avoid leakage and damage. Replace with new batteries only, and of recommended size.
- Opening the casings invalidates the warranty. Do not try to repair the units. Contact La Crosse Technology for Repairs.

## TROUBLESHOOTING

<b>Problem:</b>	The LCD is faint.
<b>Solution:</b>	Replace the batteries.
<b>Problem:</b>	“OFL” appears in the LCD.
<b>Solution:</b>	Move unit to an area with warmer or cooler surrounding temperature. Current surrounding temperatures are outside measuring range.
<b>Problem:</b>	No reception of WWVB signal.
<b>Solution:</b>	1) It may help reception to face the front of the Moon Phase Clock in the general direction of Ft. Collins, Colorado. 2) Wait overnight for signal. 3) Be sure the Moon Phase Clock is at least 6 feet from any electrical devices, i.e. TV sets, computers, or other radio controlled clocks. 4) Remove batteries for five minutes, reinsert and leave the unit overnight without pressing and releasing buttons. 5) If problems persist contact La Crosse Technology.
<b>Problem:</b>	Hour is incorrect (minute and date are correct).
<b>Solution:</b>	Be sure correct time zone and daylight saving time are selected.
<b>Problem:</b>	Moon phase is incorrect.
<b>Solution:</b>	1) Check the calendar data. 2) Check batteries. 3) Contact La Crosse Technology.

**Note:** For any questions not answered, contact La Crosse Technology with the contact information found at the end of this instructional manual.

## SPECIFICATIONS

<b>Temperature:</b>	
Measuring range:	32°F to 122°F with 0.2°F resolution (0°C to 50°C with 0.1°C resolution)
Checking intervals:	Every 10 seconds
<b>Power source:</b>	
Battery type:	2 x AA, IEC LR6, 1.5V (Alkaline)
Battery life:	Approximately 12 months
<b>Dimensions (L x W x H):</b>	11.4 x 0.98 x 7.5 in (290 x 25 x 190mm)

## WARRANTY INFORMATION

La Crosse Technology provides a 1-year warranty on this moon phase clock. Contact La Crosse Technology immediately upon discovery of any defects covered by this warranty.

Before sending the moon phase clock in for repairs, contact La Crosse Technology. The moon phase clock will be repaired or replaced with the same or similar model.

This warranty does not cover any defects resulting from improper use, unauthorized repairs, faulty batteries, or the Clocks inability to receive a signal due to any source of interference.

LA CROSSE TECHNOLOGY WILL NOT ASSUME LIABILITY FOR INCIDENTAL, CONSEQUENTIAL, PUNITIVE, OR OTHER SIMILAR DAMAGES ASSOCIATED WITH THE OPERATION OR MALFUNCTION OF THIS MOON PHASE CLOCK. THIS PRODUCT IS NOT TO BE USED FOR MEDICAL PURPOSES OR FOR PUBLIC INFORMATION. THIS PRODUCT IS NOT A TOY. KEEP OUT OF CHILDRENS' REACH.

This warranty gives you specific legal rights. You may also have other rights specific to your State. Some States do not allow the exclusion of consequential or incidental damages, therefore the above exclusion of limitation may not apply to you.

For warranty work, technical support, or information contact:

La Crosse Technology  
190 Main Street  
La Crescent, MN 55947  
Phone: 507.895.7095  
Fax: 507.895.8000

e-mail:

[support@lacrossetechnology.com](mailto:support@lacrossetechnology.com)

(warranty work)

[sales@lacrossetechnology.com](mailto:sales@lacrossetechnology.com)

(information on other products)

web:

[www.lacrossetechnology.com](http://www.lacrossetechnology.com)

**FCC ID: OMO-01RX (receiver)**

**THIS DEVICE COMPLIES WITH PART 15 OF THE FCC RULES. OPERATION IS SUBJECT TO THE FOLLOWING TWO CONDITIONS:**

- 1. THIS DEVICE MAY NOT CAUSE HARMFUL INTERFERENCE, AND**
- 2. THIS DEVICE MUST ACCEPT INTERFERENCE RECEIVED, INCLUDING INTERFERENCE THAT MAY CAUSE UNDESIRE OPERATION.**